

What Is Claimed Is:

- 1 1. A method to facilitate debugging computer code within an
2 operating system kernel, comprising:
3 receiving a source file containing a data structure definition;
4 searching the source file for the data structure definition;
5 upon finding the data structure definition, saving the data structure
6 definition in a storage structure;
7 generating a new source code to display a data structure, wherein the new
8 source code is created using the data structure definition;
9 compiling the new source code into an executable module;
10 installing the executable module into a modular debugger; and
11 during execution of the modular debugger, displaying a content of the data
12 structure to a user of the modular debugger using the executable module, whereby
13 the user is able to view the content of the data structure.
- 1 2. The method of claim 1, wherein receiving the source file includes
2 receiving a plurality of source files.
- 1 3. The method of claim 1, wherein the source file contains a plurality
2 of data structures.
- 1 4. The method of claim 3, wherein saving the data structure definition
2 in the storage structure includes saving the plurality of data structures in the
3 storage structure.

1 5. The method of claim 3, wherein generating the new source code
2 includes:
3 examining the plurality of data structures in the storage structure to locate
4 a cross-reference between data structures; and
5 generating the new source code for the plurality of data structures.

1 6. The method of claim 5, wherein generating the new source code
2 includes generating source code to walk a linked list of data structures.

1 7. The method of claim 6, wherein displaying the content of the data
2 structure includes displaying the content of the linked list of data structures.

1 8. The method of claim 1, wherein the data structure definition
2 includes one of a tree, a linked list, a doubly linked list, and a queue.

1 9. A computer-readable storage medium storing instructions that
2 when executed by a computer cause the computer to perform a method to
3 facilitate debugging computer code within an operating system kernel, the method
4 comprising:
5 receiving a source file containing a data structure definition;
6 searching the source file for the data structure definition;
7 upon finding the data structure definition, saving the data structure
8 definition in a storage structure;
9 generating a new source code to display a data structure, wherein the new
10 source code is created using the data structure definition;
11 compiling the new source code into an executable module;
12 installing the executable module into a modular debugger; and

13 during execution of the modular debugger, displaying a content of the data
14 structure to a user of the modular debugger using the executable module, whereby
15 the user is able to view the content of the data structure.

1 10. The computer-readable storage medium of claim 9, wherein
2 receiving the source file includes receiving a plurality of source files.

1 11. The computer-readable storage medium of claim 9, wherein the
2 source file contains a plurality of data structures.

1 12. The computer-readable storage medium of claim 11, wherein
2 saving the data structure definition in the storage structure includes saving the
3 plurality of data structures in the storage structure.

1 13. The computer-readable storage medium of claim 11, wherein
2 generating the new source code includes:
3 examining the plurality of data structures in the storage structure to locate
4 a cross-reference between data structures; and
5 generating the new source code for the plurality of data structures.

1 14. The computer-readable storage medium of claim 13, wherein
2 generating the new source code includes generating source code to walk a linked
3 list of data structures.

1 15. The computer-readable storage medium of claim 14, wherein
2 displaying the content of the data structure includes displaying the content of the
3 linked list of data structures.

1 16. The computer-readable storage medium of claim 9, wherein the
2 data structure definition includes one of a tree, a linked list, a doubly linked list,
3 and a queue.

1 17. An apparatus to facilitate debugging computer code within an
2 operating system kernel, comprising:
3 a receiving mechanism that is configured to receive a source file
4 containing a data structure definition;
5 a search mechanism that is configured to search the source file for the data
6 structure definition;
7 a saving mechanism that is configured to save the data structure definition
8 in a storage structure;
9 a generating mechanism that is configured to generate a new source code
10 to display a data structure, wherein the new source code is created using the data
11 structure definition;
12 a compiling mechanism that is configured to compile the new source code
13 into an executable module;
14 an installing mechanism that is configured to install the executable module
15 into a modular debugger; and
16 a displaying mechanism that is configured to display a content of the data
17 structure to a user of the modular debugger using the executable module, whereby
18 the user is able to view the content of the data structure.

1 18. The apparatus of claim 17, wherein the receiving mechanism is
2 further configured to receive a plurality of source files.

1 19. The apparatus of claim 17, wherein the search mechanism is
2 further configured to search the source file for a plurality of data structures.

1 20. The apparatus of claim 19, wherein the saving mechanism is
2 further configured to save the plurality of data structures in the storage structure.

1 21. The apparatus of claim 19, further comprising:
2 an examining mechanism that is configured to examine the plurality of
3 data structures in the storage structure to locate a cross-reference between data
4 structures; and
5 wherein the generating mechanism is further configured to generate the
6 new source code for the plurality of data structures.

1 22. The apparatus of claim 21, wherein the generating mechanism is
2 further configured to generate source code to walk a linked list of data structures.

1 23. The apparatus of claim 22, wherein the displaying mechanism is
2 further configured to display the content of the linked list of data structures.

1 24. The apparatus of claim 17, wherein the data structure definition
2 includes one of a tree, a linked list, a doubly linked list, and a queue.